CNBM | Sinoma

Green leads the future, Sinoma serves the world.

Sinoma Energy Conservation (Wuhan) Co., Ltd

Stock Code: 603126

ADD: A12, Financial Harbour, 77# Guanggu Ave, East Lake High-tech Development Zone 430070, Wuhan, PR China

Tel: (+86)27-6552 3237

Website: www.sinoma-ecwh.cn www.sinoma-sales.cn

WeChat

Mobile Official Website

CNBM

Fiber Cement Board

Application Manual

Sinoma Energy Conservation (Wuhan) Co., Ltd

Company Profile

Sinoma Energy Conservation (Wuhan) Co., Ltd. (hereinafter referred to as "the Company") is affiliated to China National Building Material Group Co.,Ltd. (hereinafter referred to as "China Building Material Group"), the Global 500 Enterprise, and is under its holding subsidiary, Sinoma Energy Conservation Limited (stock code: 603126), with a registered capital of 110 million and a number of production bases established at home and abroad.

Mainly engaged in the business of high-end fiber cement board, and other new green wall materials, the Company is a large-scale industrial platform integrating industrial investment, product research and development, production and sales. As a member of the world's top 500 companies, the Company adheres to the business philosophy of "good faith, excellent quality, continuous innovation and win-win cooperation" to strengthens research and development innovation, focus on quality benefits and create excellent performance, making the Company a sharing platform for investors, society and employees. The Company is committed to becoming a developer and service provider with global influence in the fields of new materials, new technologies and new products.

In the future, under the guidance of the national "Belt and Road" initiative and the "Six Ones" internationalization goal of China National Building Material Group Co., Ltd., the company will continue to make reasonable investment in industrial structure to lead the new wall materials industry to develop towards high-end, intelligent, green and internationalized development. The Company will commit itself to green and low-carbon development as well as scientific development to make contributions to the construction of a beautiful China, a green China and a sustainable development society.

Product Application

As high quality green, environment-friendly and energy-saving material, fiber cement board is applicable for multiple parties of buildings: external wall, internal partition wall, fire-proof wall, ceiling system, floor board, interior decoration and so on.

A. Exterior Wall Siding System **B. Interior Wall Cladding System** **C. Ceiling panel System**
D. Flooring System **E. Partition Wall System**

Product Advantage

- Weather Resistant
- Immune to Water Damage
- Fire Resistant
- Provides Sound Insulation
- Shatter Resistant
- Low Shrinkage
- Flexible
- High Degree of Work-ability
- Termite Resistant

Fiber cement board is the perfect choice for building board applications such as wall cladding, wall partitioning and decorative walling. The types of buildings that are suitable for fiber cement board applications are residential, commercial and industrial buildings as well as schools and hospitals; especially where speedy construction, cleanliness and hygiene is of high importance.

Technical Parameters

Standard size		
L (mm)	W (mm)	Thickness (mm)
2440 / 3050	1220	4-30

We can manufacture non-standard size as per customer's requirement.

Physical properties				
Item	Low density	Medium density	Medium-High density	High density
Density g/cm³	0.75 < D≤0.9	1.2 < D≤1.4	1.4 < D≤1.5	1.5 < D≤1.6
Heat conductivity W/(m.K)	≤0.20	≤0.25	≤0.35	≤0.35
Water absorption rate %	≤28			
Wet up rate %	≤0.25			
Incombustibility	Grade A1 as per GB 8624			
Impervious	No water forms after being tested for 24 hours			
Freezing test	Pass			

Mechanical properties (in accordance with JC/T564.1-2008 standard)					
Flexural strength Mpa	Air dry	≥8	≥11	≥18	≥21
	Full of water	≥6	≥8	≥14	≥17

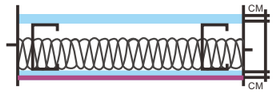
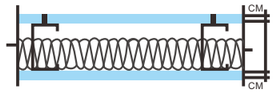
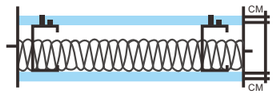
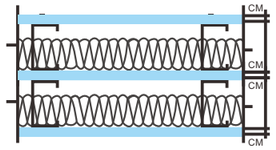
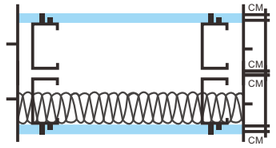
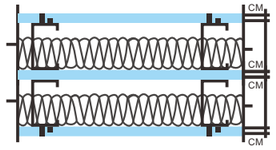
Environmental performance		
Asbestos content	100% asbestos free	
Radioactivity	Internal exposure index IRa ≤ 0.20 External exposure index Ir≤0.25 Meet the requirements of Class A decoration materials Production, sales and application are not restricted	In line with GB6566-2010

Partition Wall System

Brief introduction

The partition wall system is made of light steel keel and fiber cement board by screws. During the installation process, joint paper tape, joint putty, sealant and other auxiliary materials are used. The rock wool is filled between the two layers of plates to prevent fire and sound insulation.

System performance

No.	System specification	System functions			Keel type	System specification	Recommended area
		Sound insulation performance (dB)	fire resistance (h)	Wall thickness (mm)			
1		50	2	91	UC75	Wall 91mm (8mm board + UC light steel keel +8mm board)	Indoor partition wall
2		51	2	95	UC75	Wall 95mm (10mm board + UC75 light steel keel +10mm board)	Indoor partition wall Sanitary partition wall
3		53	4	136	UC100	Wall 136mm (double layer 9mm board + UC 100Keel + double layer 9mm board)	Indoor partition wall Bathroom light steel Aisle partition
4		54	4	180	UC75	Wall 180mm (8mm board + UC75 light steel keel+9mm board + UC75 Light steel keel +8mm board)	Household wall walkway Partition wall
5		57	4	253	UC100	Wall 235mm (double layer 12mm board + double row UC100 light steel keel + Double layer 12mm board)	Household wall walkway Partition wall
6		58	4	196	UC75	Wall 196mm (double layer 8mm board + UC75 Light steel keel +9mm board + UC75 light steel Keel + double layer 8mm board)	Household wall walkway Partition wall

Installation process

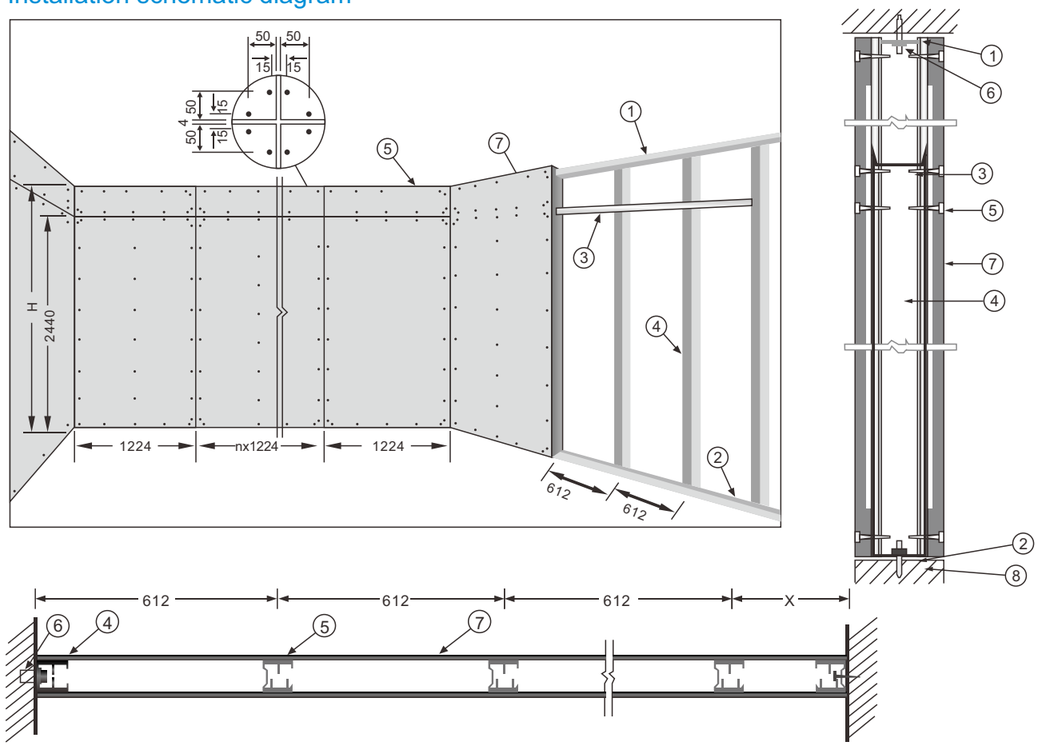
A Light steel keel frame fixing

1. Draw the installation guideline.
2. Use the shooting nail or expansion bolt to fix the along top keel and the along floor keel on the ceiling and floor.
3. And arrange the vertical keel (usually 612mm) as per the request and install the horizontal keel.

B Fiber cement board fixing

1. To cut the board as per the required size which is 10mm shorter than the wall height.
2. The boards should be fixed on the keels by the tapping screws in seam misplacement form. The distance between tapping screws is 200-250mm. And each screw head should enter 0.5mm depth into the board.
3. Please leave a seam between boards about 4mm width.
4. When fixing the board , it should be mounted from its center to the edges. Don`t fix it at different points at the same time avoid the over bending of the board.
5. Before fixing we can place the mineral wool or glass fiber into empty space between the board to get the better soundproofing and fireproofing effects.

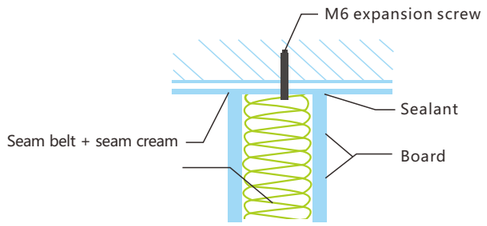
Installation schematic diagram

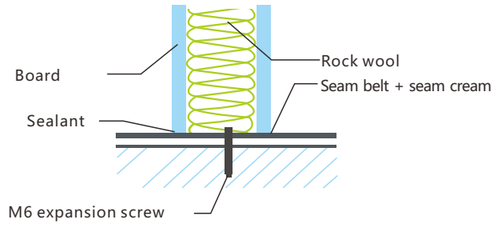


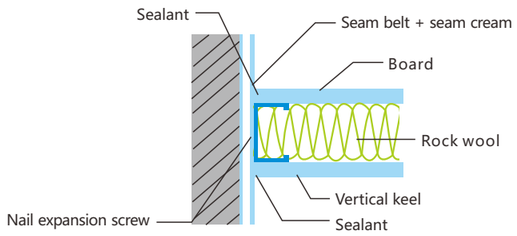
Item Discription

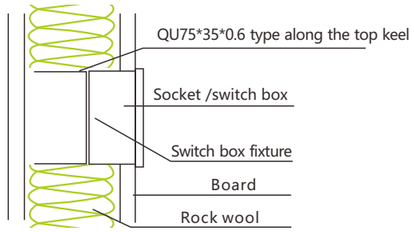
1. Along top keel
2. Along floor keel
3. Horizontal keel
4. Vertical keel
5. Tapping screw
6. Expansion bolt
7. Fiber cement board
8. Concrete foundation

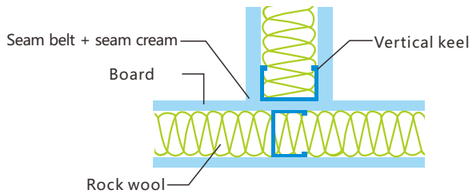
Node drawing

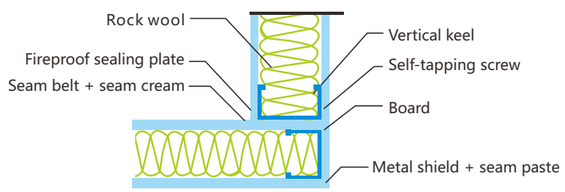






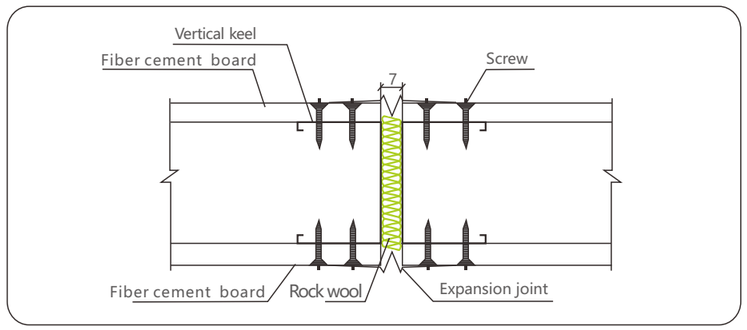






Node drawing of expansion joint

When the length of the partition wall is greater than 8m, expansion joints are required to allow the seam to move within 7mm. The connecting piece shall be fixed at the edge of the board with a self-drilling screw for fiber cement board at a pitch of 200mm.



Sound Absorption Wall System

Application

Sound absorption wall : Recommend perforation board for the theater, studio , gymnasium, textile factory, engine room, conference room.
Surface furnishing wall : Recommend for the decoration and renovation of the families, hotel, conference room, office building , shopping center and the entertainment facilities.

System features

1. Can be used for the uneven wall surface.
2. Can add different heat insulation materials into the empty space of this system. Recommend you to use the mineral wool in 50-100kg/m².
3. Can arrange the pipes and lies in the interior of protection wall.
4. It will special visual effects after the well treatment of the wall.

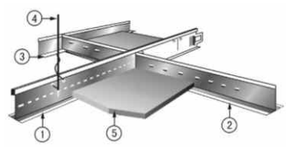
Installation process

1. To define the distance between top and floor keel and wall base through the first drawn guide line(usually less than 40mm). Than use the shooting nail or expansion screw to fix it on the ceiling and the ground.
2. Insert the vertical keels into and bottom keel and fix them. The distance between the vertical eel is 622mm.
3. As per the needed sizes of the board to install the horizontal keel.
4. To fix the boards by the tapping screw.

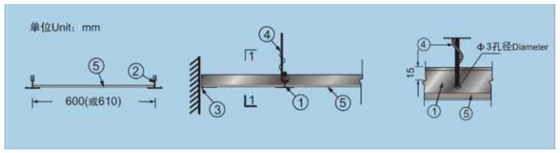
Small Size Board Ceiling System

Application

This suspended ceiling system has good Visual effescts can be used in the office, conference room, auditorium, canteen, and guesthouse.



1. T type key keel
2. T type sub keel
3. L type side keel
4. Boom
5. Board



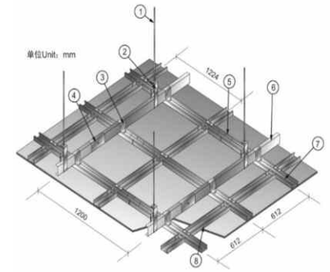
Installation process

1. To draw the installation indication line to define the center distance of the boom, usually 1200mm.
2. Use the tapping screw fix the sub-keel on the walls around the ceiling.
3. Use mental boom to fix the T-keel , the center distance between each T-key keel is 600 or 610mm.
4. Insert the T type sub-keel into the T type key keel, the distance between them is 600 or 610mm.
5. Then place the Litain（595 * 595mm / 603 * 603mm / 1195 * 595mm / 1206 * 603mm）。

Big size board ceiling system

Application

This system is suitable for the big decoration projects of office, conference room, guesthouse, workshop and so on.
It is light weight, flexible and can make the indoor space to be bright and reduce the reflection light. After placing the mineral wool it will have better heat insulation, sound absorption, sound proofing effects.



1. Boom
2. UC type keel hang ditting
3. UC type keel calipesrs
4. U type keel hook fitting
5. U type keel hook fitting
6. Key keel
7. Sub keel
8. Horizontal keel

Installation process

1. We draw the installation guideline to define the fixing position, the center distance is 1200mm.
2. Use the hook fitting to link and fix the boom and key keel, keep the key keel horizontal.
3. Use the caliper to vertically fix the sub keel on key keel, the center distance of the sub keels is 612mm.
4. To install the horizontal keels as per the request, its center distance is 1224mm.
5. Use the tapping screw fix the board on the sub-keel and do the treatment of the seam connection.

Floor System

Application

Fiber cement board slabs (typically 20-30mm) and supporting skeletons can form a slab system, and the old building is reinforced with floor slabs and floors in LOFT (attic) building. It has the advantages of fireproof and moisture proof, light weight and short construction period. After installation, the surface can be affixed with porcelain sheets, wood flooring, carpets, floor paint and so on.

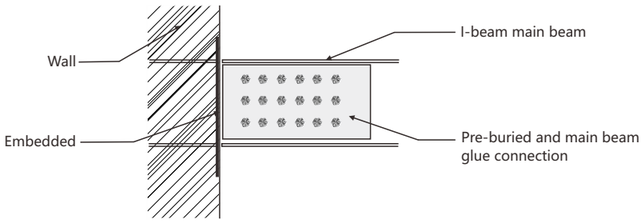
Floor board selection

The thickness of the slab can generally be selected from 20-30mm high density slabs (depending on load bearing requirements.

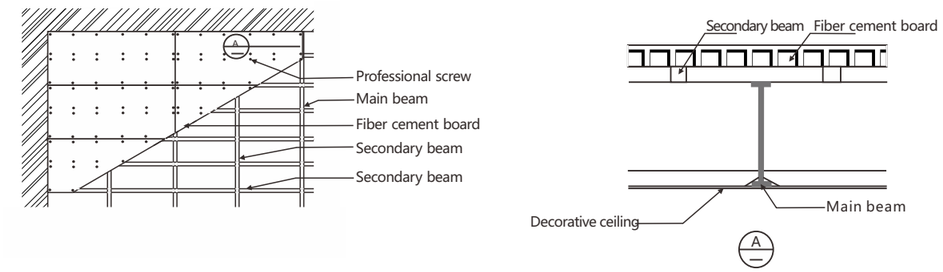
Support skeleton selection

The specifications of the main beam shall be calculated by the engineer according to the span, and the bearing strength of the original structural wall shall be comprehensively considered.
The main keel needs 600×600mm or 600×800mm spacing, the distance between the primary and secondary keels should not exceed 600×1200mm; the slabs on both sides of the slab should be lapped on the main beam of the steel keel, do not overlap in the empty space.

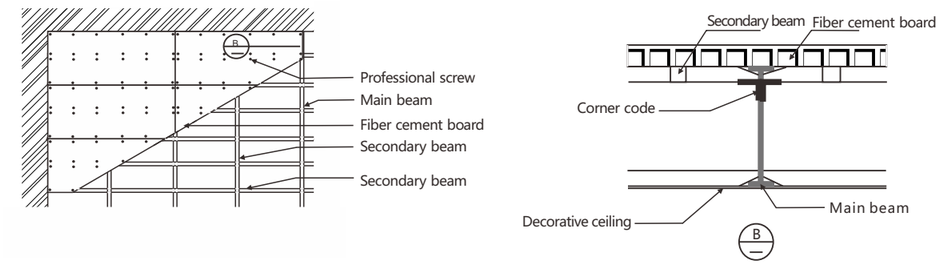
Node Drawing



Main beam connected to embedded parts



Primary and secondary beam layered connection structure



Primary and secondary beam plane connection structure diagram

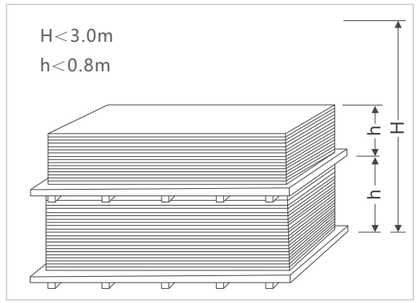
Case

Storage and Handling

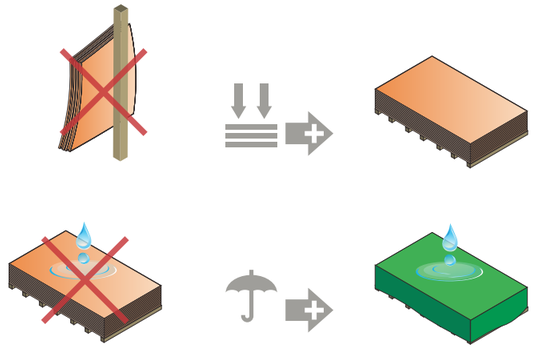
Fiber cement board series, through the correct construction method, can construct beautiful and strong parts of the building, with excellent performance. Storage and handling of products are particularly important. The following points should be noted:

Storage

Boards will be dried before they leave the factory and placed indoors if possible to prevent weathering from rain and sunshine; if placed outdoors, each stack of product should be wrapped with waterproof tarpaulin or other waterproof materials; products should be stored on dry and flat ground, in case which is not available, pillows are necessary to put underneath, and the distance between pillows is less than 600mm; when temporarily stacked, face to face/back to back but not face to back for boards to effectively protect the decorative surface; the height of each stack should not be greater than 800mm, if two or more stacks are put together, the total height should not exceed 3000mm.

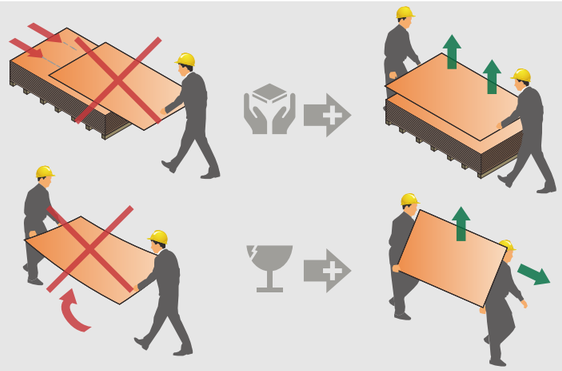


The hight of the stack



Handling

When loading and unloading trucks or construction operations, they should be handled lightly and carefully so as to avoid damage to their edges and corners; it is strictly forbidden to drag board on the board to avoid scratching decorative surfaces; in order to avoid excessive bending and breaking of boards, two workers should lift the long sides of boards together, and their arms should be separated if possible, and single-person handling is forbidden, and temporary support of the corners on the ground is forbidden.



Safety and Environmental Protection

Fiber cement board products will produce inhalable dust when they are cut. Inhalation of these dust by human body will damage health and even lead to disease. Therefore, the following cautions should be paid attention to in plate processing room:

1. The workplace shall be kept well ventilated, and it should be cut in an open outdoor area or in a place with fresh air circulation.
2. Use power tools with vacuum function as far as possible.
3. Operators shall wear dust mask and protective glasses.
4. Vacuum cleaner or water sprinkler shall be used for cleaning the processing site, and the cleaned dust shall be placed in the garbage bag.